Docket No.: 1454.1168

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Lucian HIRSCH et al.

Serial No. 09/700,093 Group Art Unit: 2194

Confirmation No. 1415

Filed: November 10, 2000 Examiner: Li B. Zhen

For: METHOD AND COMMUNICATION SYSTEM FOR PROCESSING STATE INFORMATION IN A MANAGEMENT NETWORK HAVING A NUMBER OF MANAGEMENT LEVELS

ARGUMENTS IN SUPPORT OF PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants respectfully submit that there is "clear error" in the Office Action mailed October 16, 2009 because the primary reference is not relevant to the claimed subject matter and what was cited therein does not teach or suggest the limitations that are allegedly taught by this reference. As a result, there are "omissions of one or more essential elements needed for a *prima facie* rejection." Furthermore, it is submitted that the combinations of references is improper due to the lack of relevance of the primary reference.

As discussed in the Amendments filed April 13, 2009 and July 13, 2009 and during the Interview on July 7, 2009, the claims are directed to a "communication system for state realignment" (claim 17, line 1, see also lines 6 and 9); a "method for state realignment" (claim 30, line 1, see also lines 6 and 11); and a "communication system undergoing state realignment" (claim 31, line 1, see also lines 5 and 8). Despite the attempt to educate the Examiner on the meaning of the words "state realignment" in the art during the Interview on July 7, 2009, the October 16, 2009 Office Action continues to rely on U.S. Patent 5,903,568 to Tanaka et al. as the primary reference, even though neither of the words "state" and "realignment" appear therein. It is submitted that no valid *prima facie* obviousness rejection of the subject claims could use Tanaka et al. as a primary reference when it has so little relevance to the subject matter of all of the independent claims.

The October 16, 2009 Office Action begins the rejection of all of the independent claims by asserting that with regard to claim 17, Tanaka et al. "teaches a communication system for processing state information" even though (1) the term "state information" is not used in Tanaka et al. and (2) claim 17 is directed to a "communication system for state realignment of state information" not merely to "processing state information" as described in the Office Action. For this reason, it is submitted that reliance on Tanaka et al. as a primary reference is "clear error."

On page 3 at lines 13-16, the October 16, 2009 Office Action asserts that the phrase "performing state realignment to the agent" is taught by the following in Tanaka et al.:

> a lower-layer manager 106 for performing a service function in response to a request from the upper-layer manager 101, a plurality of lower-layer agents 107 for performing a service function in response to a request from the lower-layer manager 106; col. 6, lines 22 - 50 and col. 7, lines 3 -11.

However, this description of a "service function" is not equivalent to "state realignment" as known in the art. As discussed at the Interview on July 7, 2009, "state realignment" is required if states are stored in parallel in different locations, such as a manager and an agent in different management layers of a management network and are deemed for some reason to be no longer synchronized with each other.[1] All the independent claims recite examples of when state re-alignment is necessary, "after communication between said manager and said agent is established initially or following a period during which communication was not guaranteed" (claim 17, lines 9-11; claim 30, lines 11-13; and claim 31, lines 8-9). In large systems with many states stored in parallel in more than one location, the specific problem arises that state realignment may imply the exchange of a large amount of data, because usually all states need to be realigned. In this situation, "state realignment" can last a long time which significantly affects the performance of the management system (see page 2, lines 24-30 of the English translation of the application). It is submitted to be "clear error" to consider a "service function" to be equivalent to "state realignment" as that term is known in the art. It is not a matter of interpretation of the claims or prior art reference, but rather understanding the meaning of the words.

The October 16, 2009 Office Action next asserts that the limitation "deviation(s) from a normal state" (claim 17, line 12; claim 30, lines 14-15; claim 31, lines 12-13) is taught by the

[1] For articles discussing "state realignment" as that term is used in the claims, see, J.A, Rossiter, "Stable prediction for unstable independent models," IEEE Transactions on Automatic Control, Vol. 48, No. 11, Nov. 2003, pp. 2029 - 2035; Jyh-Charn Liu et al., "Efficient implementation techniques for gracefully degradable multiprocessor systems," IEEE Transactions on Computers, Vol. 44, No. 4, April 1995, pp. 503-517; William J. Gerber et al., "Real-Time Synchronization and Modification of a Behavioral Vehicle Model for Distributed Simulation," The Interservice/Industry Training, Simulation & Education Conference (I/ITSEC), Vol. 1999; Alexander Treiber et al., "A fully automated entanglement-based quantum cryptography system for telecom fiber networks," New Journal of Physics, Vol. 11, April 2009, pp. 45013-45031.

description in Tanaka et al. that "lower-layer agent 107 gives an event notification $N_{[n-1]}$ 1 produced in the managed object $M_{[n-1]}$ 1 to the lower-layer manager 106 in a step 401, col. 10, lines 45 - 48" (Office Action, page 3, lines 18-19). First, it is submitted that the October 16, 2009 Office Action has taken the teachings at column 10, lines 45-48 of Tanaka et al. out of context. Whatever occurs during "event notification" is irrelevant to both the claims and the "service function" that the lower-level manager 106 performs "in response to a request from the upper-layer manager 101" (Office Action, page 3, line 14), because the "event notification" does not appear to be performed "in response to a request" from anything. Rather, event notifications appear to be operations of the system disclosed by Tanaka et al. that are completely separate from responding to a request (see, for example, claim 1 of Tanaka et al., "managed-object correspondence information convert means … for receiving operations, responses, and event notifications from the managed objects of the upper and lower layers" and the separate sentences at the end of the first paragraph - column 1, lines 14-18 - of the Description of the Related Art, as well as the description of Fig. 8, which contains block 401 that was cited in the Office Action as teaching "deviation(s) from a normal state" and is not described as related to Fig. 7, "a flowchart of an operation response processing sequence" (column 6, lines 12-13).

Second, even if the teachings of Tanaka et al. regarding "event notification" were relevant to detecting "deviation(s) from a normal state" as part of "state realignment," the assertions on page 3, lines 17-19 of the October 16, 2009 Office Action overlooks the fact that during state realignment an alarm state of a managed object would be transmitted if the value of the alarm state is "NO ALARM" and thus, reflects no deviation from its "normal state." Thus, it is submitted that the alarm forwarding illustrated in Fig. 8 of Tanaka et al. is not a technology which is suitable to reduce the amount of data needed to be exchanged for the purpose of state realignment. Rather the opposite is the case because for alarm management every state change usually needs to be exchanged in a timely fashion between two management systems to allow for fast alarm clearance. Thus, Tanaka et al. teaches diametrically the opposite of the claimed invention which, as discussed above, seeks to avoid as many exchanges of data as possible.

To avoid the drawbacks of the conventional "state realignment" process described above and in the Background of the Invention section of the application, the invention as claimed in claim 17, for example, includes "checking the state information … with regard to deviations from a normal state defined by one of a predefined value and a combination of predefined values, and sending only deviant state information … indicating the deviations from the normal state of the state information" (claim 17, lines 11-14); see also claim 30, lines 14-19 and claim 31, lines 10-13. This allows the exchange of all states to be avoided; thus reducing the amount of data to

be exchanged between the two management systems. As a consequence, any prior art reference that does not address issues related to "state realignment" is not particularly relevant to the claims which address the problem of mass data exchange during state realignment and which recite methods and systems that are capable of significantly reducing the amount of data needed to be exchanged during "state realignment."

The October 16, 2009 Office Action attempts to overcome the lack of relevant teaching in Tanaka et al. by citing Published PCT Application 96/20547 (hereinafter, "Carretta et al.") which does relate to "state realignment." The individual teachings of Carretta et al. are discussed below. However, it is submitted that the failure of Tanaka et al. to mention "state realignment" makes the combination of Tanaka et al. and Carretta et al. improper. Due to the lack of teachings in Tanaka et al. regarding "state realignment," one of ordinary skill in the art would not look to Carretta et al. for a teaching of "state realignment." The reason given for modifying Tanaka et al. to incorporate the features of Carretta et al., for "economizing the state information to be sent to a MANAGER so that the latter can recover its own alignment and the economy is very advantageous when the state of the managed subsystem is defined by a large number of variables" Office Action, page 5, lines 10-13, is a common benefit of the claimed invention and Carretta et al., but does not contain any reason why one of ordinary skill in the art would look to Carretta et al. to modify Tanaka et al. since Tanaka et al. is not related to state realignment. As discussed above, the Examiner has failed to provide any reason why one of ordinary skill in the art would consider Tanaka et al. when faced with any issue related to "state realignment," including reducing the amount of data transmitted during "state realignment." In other words, the relevance of Carretta et al. does not make Tanaka et al. relevant, just because the Examiner wants to combine these two references.

As for the teachings of Carretta et al. regarding "state realignment:" (a) page 6, lines 2-5; (b) page 8, line 36 to page 9, line 3; (c) page 11, lines 1-23; (d) page 12, lines 10-13; (e) page 36, line 28 to page 37, line 36; and (f) page 38, line 32 to page 39, line 6, sections (a) and (b) merely describe "state realignment" in general; section (c) provides a high-level description of "state realignment" in the system disclosed in Carretta et al., followed by an overview of the alternatives of "send[ing] only those state variable values different from the respective default values" and "send[ing] all the state variable values"; section (d) describes the timing of state realignment which is described as an "innovation introduced" by Carretta et al.; and section (f) notes that the managed subsystem must inform the manager when transmission of state variable values starts and ends. As for section (e), it is the longest cited portion of Carretta et al. that is relevant to "state realignment" and is a description of Fig. 11 which "shows the flow chart

of the ALIGNMENT RECOVERY module" which provides details of the first alternative method of communicating state variable values summarized in section (c).

As apparently recognized by the Examiner in not rejecting the claims over Carretta et al. alone, Carretta et al. taken alone does not teach or suggest the claimed invention and as discussed above, the Examiner has failed to provide sufficient reasons under *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007) and *Ex parte Smith*, 83 USPQ2d 1509 (Bd. Pat. App. & Int. 2007) for why one of ordinary skill in the art would have found it obvious at the time the invention was made to modify Tanaka et al. to add "state realignment" by "send[ing] only those state variable values different from the respective default values" as taught by Carretta et al. to meet the requirements that

> (1) each of the claimed elements is found within the scope and content of the prior art; (2) one of ordinary skill in the art could have combined the elements as claimed by methods known at the time the invention was made; and (3) one of ordinary skill in the art would have recognized at the time the invention was made that the capabilities or functions of the combination were predictable.

83 USPQ2d 1516-1517. For the above reasons, it is submitted that claims 17 and 30-33 patentably distinguish over Tanaka et al. and Carretta et al.

In rejecting claims 2-16, 18-29 and 34, U.S. Patent 6,404,743 to Meandzija was added to Tanaka et al. and Carretta et al. As discussed in the Amendment filed April 13, 2009 and the Supplemental Amendment filed July 13, 2009, it is submitted that Meandzija does not overcome the deficiencies of Tanaka et al. and Carretta et al.

If there are any additional fees associated with filing of the Pre-Appeal Brief Request for Review, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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Date: March 16, 2010

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